



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,721	07/30/2007	Jean-Claude Abed	034423/317776	3281
826	7590	03/09/2011		
ALSTON & BIRD LLP BANK OF AMERICA PLAZA 101 SOUTH TRYON STREET, SUITE 4000 CHARLOTTE, NC 28280-4000			EXAMINER SYKES, ALTREV C	
			ART UNIT	PAPER NUMBER
			1798	
			MAIL DATE	DELIVERY MODE
			03/09/2011	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/599,721

**Applicant(s)**

ABED ET AL.

**Examiner**

ALTREV C. SYKES

**Art Unit**

1798

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3 and 5-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Response to Amendment**

1. The amendment to the claims filed December 17, 2010 is acknowledged by examiner and has been entered. Claims 19-22 are newly added. Claims 1, 3 and 5-22 are pending.

### **Response to Arguments**

2. Applicant's arguments filed December 17, 2010, with respect to the rejection(s) of claims 1 and 3-18 have been fully considered but are moot in view of the new grounds of rejection necessitated by the amendment. However, examiner notes that while applicant argues that the claimed invention is achieved without increasing the weight per unit area of the fleece or by addition of additional materials, the instant claims do not exclude the use of additional unrecited elements. Therefore, the claims are interpreted as open-ended. See MPEP 2111.03

### **Claim Rejections - 35 USC § 102**

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, 6, 9, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Modrak et al. (US 4,868,031) as evidenced by Lauterbach et al. (US 3,186,155).

Regarding claims 1, 3, 6, 9, and 20 Modrak et al. discloses a polyolefin fiber-containing nonwoven material having tailored opacity, softness, and strength. (See Abstract)

Modrak et al. discloses increasing the opacity of a polyolefin containing nonwoven material by incorporating a polypropylene filament having a delta or diamond cross-sectional shape drawn to a denier of above 1-2.5 dpf. (See Col 2, lines 13-30 and Col 3, lines 38-40) Modrak et al. discloses the polyolefin filaments may be combined with other polyolefin filaments having known cross-sectional configurations such as “y”, “x” and oval. (See Col 2, lines 30-37) Examiner equates the “y” cross sectional configuration to a trilobal cross section as claimed by applicant. As such, examiner notes that Modrak et al. teaches a nonwoven material comprising polymer fibers of a low fiber titer having a non-circular cross section. Modrak et al. discloses the nonwoven materials may be spun bonded having a weight in the range of 10-30 gm/yd<sup>2</sup> (approximately 12 g/m<sup>2</sup> - 36 g/m<sup>2</sup>). (See Col 3, lines 10-13)

Further regarding claims 1 and 20, it is noted that when the fibers are laid in the claimed “direction perpendicular to the Z-direction” they would essentially be laid flat against a surface such as a transport belt (or screen) normally used to collect fibers in a spunbonding process. Therefore, the preferred direction as claimed by applicant would have been obvious to one of ordinary skill in the art. Further, one of ordinary skill in the art would appreciate that it is essentially the non-round cross sectional configurations of the fibers of modified Langley that attribute to the softness or velvet feel of the final fabric (i.e. bulkier fibers). (See Modrak Col 2, lines 40-43) As such, a fleece made with

bulky fibers would readily exhibit a thicker (i.e. 25% to 53% greater) cross section than a fleece made with a circular cross section. (See Lauterbach et al. Col 8, lines 16-26 and instant specification Fig. 1)

Finally regarding claim 1, Modrak et al. discloses the combination and amount of each cross sectional configuration used will depend substantially upon the degree of opacity and toughness desired in combination with a soft or velvet feel. (See Col 2, lines 40-43) Modrak et al. further discloses that a nonwoven fabric having fibers of a diamond and/or delta cross-section configuration would have an opacity greater than that of a fabric comprising round fibers at approximately the same weight per area. (See Table II) Therefore, examiner notes that the nonwoven fabric as taught by modified Langley would exhibit a greater reduction of light permeability than a fabric comprising circular cross section fibers because of the bulk that the non-round cross sectional configurations provide.

Regarding claim 16, Modrak et al. discloses the nonwoven materials may be used as cover sheets for diapers, sanitary napkins, as well as covering materials for other purposes. (See Col 1, lines 30-35)

#### **Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1798

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 5, 7, 8, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modrak et al. (US 4,868,031) as evidenced by Lauterbach et al. (US 3,186,155) as set forth above for claim 1.

Regarding the limitations of claims 5, 7, 8, and 19 with respect to a spunbond fleece having a particular light permeability, air permeability or a combination of both, examiner notes that one of ordinary skill in the art at the time of the invention would have been easily motivated to modify the light permeability and air permeability to meet the claimed ranges of applicant with the desire to tailor the fabric for end use. Specifically, Modrak discloses the nonwoven materials may be used as cover sheets for diapers, sanitary napkins, etc. (See Col 1, lines 30-35) Modrak et al. discloses one can achieve an opacity within the range of 32%-45% or even higher, depending upon one's choice of ancillary characteristics. (See Col 2, lines 65-68)

8. Claims 10-13 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modrak et al. (US 4,868,031) as evidenced by Lauterbach et al. (US 3,186,155) as set forth above for claim 1 in view of Langley (US 5,560,974).

Regarding claim 10, Modrak et al. discloses nonwoven webs may be superimposed and thermally bonded. (See Col 4, lines 29-40) Modrak et al. does not disclose the fleece is coated with an adhesive.

Langley discloses the breathable non-woven composite barrier fabrics are impervious to water-based liquids such as body fluids but which allow passage of water vapor. (See Col 1, lines 13-16) Langley discloses spun-bonded polypropylene or polyethylene or co-polymers of polyolefins are suitable for use. (See Col 6, lines 10-12) Langley discloses a non-woven web layer is adhesive bonded to a microporous film of polyolefin materials. (See Col 1, lines 25-28) Langley also discloses thermal bonding of the composite fabric. (See Col 4, lines 58-62)

As Modrak et al. and Langley are both directed to a spunbonded nonwoven fabric comprising polymeric materials, the art is analogous. Therefore, a prima facie case of obviousness exists for one of ordinary skill in the art to utilize adhesive bonding as taught by Langley in place of thermal bonding as disclosed by Modrak motivated by expected

success since both methods are taught by Langley as favorable for producing composite fabrics.

Regarding claims 11 and 13, Langley discloses point or spot applications of the adhesives can achieve the goals of both the performance and strength. (See Col 5, lines 8-17)

Langley also discloses the thermal bonding of the webs and film is at multiple spaced-apart locations. (See Col 4, lines 58-62) Therefore, one of ordinary skill in the art would expect for the adhesive to only penetrate the surface of the fabric. Because Langley is explicit about point or spot applications of the adhesives, it would have been obvious to one of ordinary skill in the art to optimize the portion of adhesive per m<sup>2</sup> motivated by the desire to tailor the performance and strength of the nonwoven materials for various fabric end uses. (See Col 5, lines 2-7)

Regarding claim 12, Langley discloses the adhesive systems may include hot melt adhesives usually existing in aqueous dispersions but can be added to the non-woven composite materials as solutions or solids in thermal plastic form. (See Col 2, lines 40-45) Langley discloses point or spot applications of the adhesives can achieve the goals of both the performance and strength. (See Col 5, lines 8-17) Therefore, a prima facie case of obviousness exists for one of ordinary skill in the art to choose an appropriate adhesive as required by the final fabric end use. Additionally, it would have been obvious to one of ordinary skill in the art at the time of the invention to choose an adhesive having the claimed viscosity based on the desired application method.



Regarding claims 17-18, Langley discloses applications for such fabrics exist in the field of protective garments for medical technicians, laboratory workers, and the like. (See Col 1, lines 16-23) Langley further discloses the microporous films have been used individually in applications for filtration of solids, and in the preparation of cloth laminates. These films have also been utilized to make surgical dressings, bandages and other fluid transmissive medical applications. (See Col 1, lines 61-67 and Col 2, lines 1-8) Therefore, it would have been obvious to one of ordinary skill in the art to provide a filter material or household cloth comprising the spunbond fabric of Langley since the reference is explicit to laminating the fabric to microporous films designed for such purposes.

9. Claims 14, 21, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modrak et al. (US 4,868,031) as evidenced by Lauterbach et al. (US 3,186,155) as set forth above for claim 1 in view of Delucia et al. (US 6,797,377).

Regarding claims 14, 21, and 22 Modrak et al. discloses all of the claim limitations as set forth above. Modrak et al. further discloses that the fabric produced minimizes or avoids the need for high concentrations of colorants to increase opacity. (See Col 2, lines 7-10, emphasis added) As such, examiner notes that Modrak suggests the use of colorants but teaches away from high concentrations of such. Modrak et al. does not specifically disclose one or more inorganic salts.

Delucia discloses nonwoven webs made from thermoplastic polymers. (See Abstract)

Delucia discloses the nonwoven webs may be formed from spunbonding processes. (See Col 2, lines 5-10) Delucia discloses additives may be added to the polymers forming the fibers for coloration such as titanium dioxide. (See Col 2, lines 55-62) Delucia further discloses calcium carbonate may be included in the fibers for the purpose of improved visual aesthetics. (See Col 4, lines 1-15)

As Modrak et al. and Delucia et al. are both directed to spunbond nonwovens, the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize an inorganic as taught by Delucia et al. for the fabric of Modrak et al. motivated by the desire to tailor the visual aesthetics as well as anti-static properties, lubrication, hydrophilicity, etc. (See Col 2, lines 55-62 and Col 4, lines 1-15)

10. Claims 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Modrak et al. (US 4,868,031) as evidenced by Lauterbach et al. (US 3,186,155) as set forth above for claim 1 in view of Langley (US 5,560,974) and further in view of Delucia et al. (US 6,797,377).

Regarding claim 15, Modrak et al. discloses all of the claim limitations as set forth above. Modrak et al. further discloses that the fabric produced minimizes or avoids the need for high concentrations of colorants to increase opacity. (See Col 2, lines 7-10, emphasis

added) As such, examiner notes that Modrak suggests the use of colorants but teaches away from high concentrations of such. Langley discloses the breathable non-woven composite barrier fabric can be utilized in cooperation with various additives for example antistatic compounds. (See Col 10, lines 32-35) Modified Modrak et al. does not specifically disclose one or more inorganic salts between 0.1 and 5% by weight.

Delucia discloses nonwoven webs made from thermoplastic polymers. (See Abstract)  
Delucia discloses the nonwoven webs may be formed from spunbonding processes. (See Col 2, lines 5-10) Delucia discloses additives may be added to the polymers forming the fibers for coloration, anti-static properties, lubrication, hydrophilicity, etc. These additives, e.g. titanium dioxide for coloration, are generally present in an amount less than 5 weight percent and more typically about 2 weight percent. (See Col 2, lines 55-62)  
Delucia further discloses calcium carbonate may be included in the fibers for the purpose of improved visual aesthetics. (See Col 4, lines 1-15)

As Modrak et al. and Delucia et al. are both directed to spunbond nonwovens, the art is analogous. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize an inorganic salt in the amount as taught by Delucia et al. for the fabric of modified Modrak et al. motivated by the desire to tailor the visual aesthetics as well as anti-static properties, lubrication, hydrophilicity, etc. (See Col 2, lines 55-62 and Col 4, lines 1-15)

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

### **Conclusion**

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Braun et al. (US 4,753,834) is directed to a nonwoven web having improved softness comprising fibers of a bilobal shaped cross-section. (see Abstract) Datta et al. (US 4,801,494) discloses a spunbonded liner comprising fibers of various cross-section. (See abstract) Pereira (US 6,087,551) discloses a multi-denier non-woven fabric. (See Abstract) Octavio et al. (US 6,025,535) discloses a topsheet for absorbent articles comprising fibers of non-circular cross-section. (See Abstract)
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALTREV C. SYKES whose telephone number is (571)270-3162. The examiner can normally be reached on Monday-Thursday, 8AM-5PM EST, alt Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on 571-272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Angela Ortiz/  
Supervisory Patent Examiner, Art Unit  
1798

/ACS/  
Examiner  
3/8/11